TS64MSD64V4J-I

200PIN DDR400 Unbuffered SO-DIMM
512MB With 64Mx8 CL3

Description

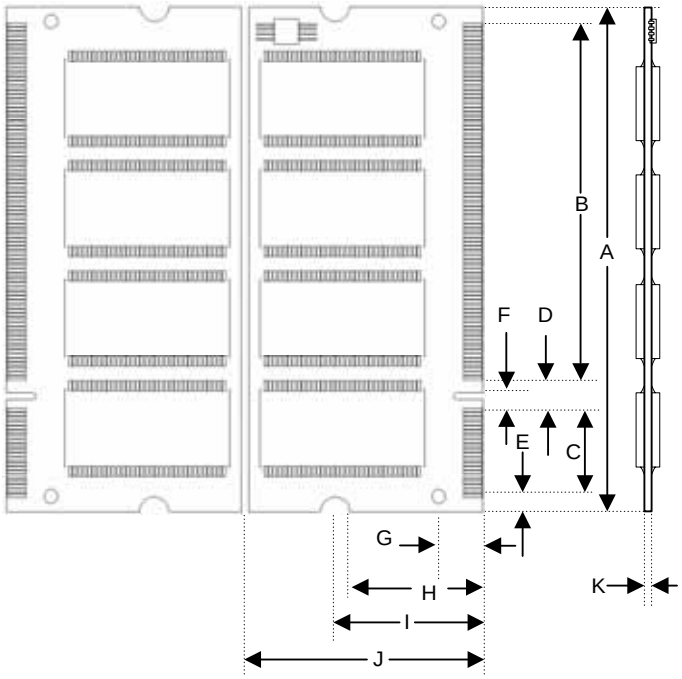
The TS64MSD64V4J-I is a 64M x 64bits Double Data Rate SDRAM high-density for DDR400. The TS64MSD64V4J-I consists of 8pcs CMOS 64Mx8 bits Double Data Rate SDRAMs in 66 pin TSOP-II 400mil packages and a 2048 bits serial EEPROM on a 200-pin printed circuit board. The TS64MSD64V4J-I is a Dual In-Line Memory Module and is intended for mounting into 200-pin edge connector sockets.

Synchronous design allows precise cycle control with the use of system clock. Data I/O transactions are possible on both edges of DQS. Range of operation frequencies, programmable latencies allow the same device to be useful for a variety of high bandwidth, high performance memory system applications.

Features

- Industrial Temperature (TA): -40C to +85C
- Power supply: VDD= VDDQ: 2.6V ± 0.1V,
- Max clock Freq: 200MHZ.
- Double-data-rate architecture; two data transfers per clock cycle
- Differential clock inputs (CK and /CK)
- DLL aligns DQ and DQS transitions with CLK transition
- Commands entered on each positive CLK edge
- Auto and Self Refresh.
- Data I/O transactions on both edge of data strobe.
- Serial Presence Detect (SPD) with serial EEPROM
- SSTL-2 compatible inputs and outputs.
- MRS cycle with address key programs.
  CAS Latency (Access from column address) : 3
  Burst Length (2,4,8)
  Data Sequence (Sequential & Interleave)

Placement



PCB: 09-1220

Dimensions

Side	Millimeters	Inches
A	67.60±0.20	2.661±0.008
B	47.40	1.866
C	11.40	0.449
D	4.20	0.165
E	2.15	0.085
F	1.80	0.071
G	6.00	0.236
H	18.00	0.709
I	20.00	0.787
J	31.75±0.20	1.250±0.008
K	1.00±0.10	0.039±0.004

(Refer Placement)

Pin Identification

Symbol	Function
A0~A12, BA0, BA1	Address input
DQ0~DQ63	Data Input / Output.
DQS0~DQS7	Data strobe input/output
CK0~CK2 /CK0~/CK2	Clock Input.
CKE0, CKE1	Clock Enable Input.
/CS0, /CS1	Chip Select Input.
/RAS	Row Address Strobe
/CAS	Column Address Strobe
/WE	Write Enable
DM0~DM7	Data-in Mask
VDD	+2.5 Voltage power supply
VREF	Power Supply for Reference
VDDSPD	+2.5 Voltage Serial EEPROM Power Supply
SA0~SA2	Address in EEPROM
SCL	Serial PD Clock
SDA	Serial PD Add/Data input/output
VSS	Ground
NC	No Connection

Pinouts:

Pin No	Pin Name	Pin No	Pin Name	Pin No	Pin Name	Pin No	Pin Name	Pin No	Pin Name	Pin No	Pin Name
01	VREF	69	VDD	137	VSS	02	VREF	70	VDD	138	VSS
03	VSS	71	*CB0	139	DQ35	04	VSS	72	*CB4	140	DQ39
05	DQ0	73	*CB1	141	DQ40	06	DQ4	74	*CB5	142	DQ44
07	DQ1	75	VSS	143	VDD	08	DQ5	76	VSS	144	VDD
09	VDD	77	*DQS8	145	DQ41	10	VDD	78	*DM8	146	DQ45
11	DQS0	79	*CB2	147	DQS5	12	DM0	80	*CB6	148	DM5
13	DQ2	81	VDD	149	VSS	14	DQ6	82	VDD	150	VSS
15	VSS	83	*CB3	151	DQ42	16	VSS	84	*CB7	152	DQ46
17	DQ3	85	DU	153	DQ43	18	DQ7	86	DU	154	DQ47
19	DQ8	87	VSS	155	VDD	20	DQ12	88	VSS	156	VDD
21	VDD	89	*CK2	157	VDDD	22	VDD	90	VSS	158	/CK1
23	DQ9	91	*/CK2	159	VSS	24	DQ13	92	VDD	160	CK1
25	DQS1	93	VDD	161	VSS	26	DM1	94	VDD	162	VSS
27	VSS	95	*CKE1	163	DQ48	28	VSS	96	CKE0	164	DQ52
29	DQ10	97	*A13	165	DQ49	30	DQ14	98	DU	166	DQ53
31	DQ11	99	*A12	167	VDD	32	DQ15	100	A11	168	VDD
33	VDD	101	A9	169	DQS6	34	VDD	102	A8	170	DM6
35	CK0	103	VSS	171	DQ50	36	VDD	104	VSS	172	DQ54
37	/CK0	105	A7	173	VSS	38	VSS	106	A6	174	VSS
39	VSS	107	A5	175	DQ51	40	VSS	108	A4	176	DQ55
41	DQ16	109	A3	177	D56	42	DQ20	110	A2	178	DQ60
43	DQ17	111	A1	179	VDD	44	DQ21	112	A0	180	VDD
45	VDD	113	VDD	181	DQ57	46	VDD	114	VDD	182	DQ61
47	DQS2	115	A10	183	DQS7	48	DM2	116	BA1	184	DM7
49	DQ18	117	BA0	185	VSS	50	DQ22	118	/RAS	186	VSS
51	VSS	119	/WE	187	DQ58	52	VSS	120	/CAS	188	DQ62
53	DQ19	121	/CS0	189	DQ59	54	DQ23	122	*/CS1	190	DQ63
55	DQ24	123	DU	191	VDD	56	DQ28	124	DU	192	VDD
57	VDD	125	VSS	193	SDA	58	VDD	126	VSS	194	SA0
59	DQ25	127	DQ32	195	SCL	60	DQ29	128	DQ36	196	SA1
61	DQS3	129	DQ33	197	VDDSPD	62	DM3	130	DQ37	198	SA2
63	VSS	131	VDD	199	VDD	64	VSS	132	VDD	200	DU
65	DQ26	133	DQS4			66	DQ30	134	DM4		
67	DQ27	135	DQ34			68	DQ31	136	DQ38		